

These points may be determined by future observations. It will be noticed that the extremities of the fins and tail of the *Premnas* are attenuated to what appears to be the utmost degree consistent with cohesion of their molecules.

April 22, 1869.

The Viscount Walden, President, in the Chair.

Mr. G. Dawson Rowley, F.Z.S., exhibited some specimens of British-killed Pipits, and made the following observations upon them:—

I have the pleasure to exhibit a series of Water-Pipits (*Anthus aquaticus*) and Rock-Pipits (*Anthus obscurus*), all shot or taken near Brighton, in spring and autumn plumage, male and female respectively, showing the distinction between the two species in the several states. Only two or three of the former have ever been, I think, noticed in print as found in the British isles, and considerable confusion has existed in collections respecting them. I have at times observed each one doing duty for the other. *A. aquaticus* is not very common; but it visits the south coast regularly in the spring, moves on to breed, and again stops with us a few weeks on its return in autumn. In spring it has a blue tinge on the back, with a vinous one on the chest, underparts greenish; in the autumn dress these are lost, and the underparts turn pure white. The outer tail-feather also changes from buff to white. Males differ little from females.

A communication was read from Mr. Thomas Graham Ponton, F.Z.S., containing a criticism of the arrangement of the shells of the genus *Mangelia* adopted by Reeve in his 'Monograph,' in which it was pointed out that the seventy species of this group given in the 'Conchologia Iconica' ought to be distributed amongst the genera *Defrancia*, *Cythara*, and *Mangelia*. Mr. Ponton gave a list of the species which he considered referable to each of these three genera, and proposed to assign one to *Defrancia*, fifty-three to *Cythara*, and sixteen to *Mangelia*.

The following papers were read:—

1. On the Muscular Sheath of the Cardiac End of the Œsophagus of the Aye-Aye (*Chiromys madagascariensis*).
By GEORGE GULLIVER, F.R.S.

Among the many inexplicable structural arrangements of animal organs is that of the comparative distribution of the striped muscular fibre to the same part in different orders; and the obscurity is not

lessened by the discovery of this fibre on the whole alimentary canal of the Tench* (*Tinca vulgaris*), after I had observed that this is not the case in some other cyprinoid fishes.

Such facts tend to weaken the value in systematic zoology of the character afforded by the muscular sheath of the œsophagus. But whatever structure proves constant cannot be devoid of importance, however difficult the explanation may be; and, so far as my limited observations have gone, it is always easy to distinguish between certain orders of Mammalia, and these from birds and reptiles; simply by the muscular fibre of the œsophagus. For example, in the Quadrumana the striped muscular fibre stops short of the cardia, while in the Rodentia this fibre extends quite to that part of the stomach, as has been more particularly described of these and other vertebrates in the 'Proceedings' of this Society (1842, p. 63 *et seq.*).

Hence it seems desirable to add this character, for as much as it may be worth, to the descriptions already known respecting such Mammalia as may have a questionable position in systematic zoology. The Aye-Aye is one of these; for it has been alternately placed among the Rodentia and Quadrumana. And by the courtesy of Mr. Flower I have examined for striated muscle about an inch of the cardiac end of the œsophagus of this animal, preserved in spirit of wine. The results were entirely negative. Not a single striped muscular fibre appeared, although the whole thickness of the œsophagus was examined, from the outer part of the preparation to the plaster with which it had been artificially distended; in short, nothing of muscular tissue but the smooth variety could be found. And thus, so far as regards this point, the œsophagus of the Aye-Aye is as unlike that of Rodentia as it is like that of Quadrumana—a fact which tends to support the latest and now general conclusion as to the affinities of this singular animal.

2. On Venezuelan Birds collected by Mr. A. Goering. By
P. L. SCLATER, M.A., Ph.D., F.R.S., and OSBERT SALVIN,
M.A., F.L.S.—Part III.†

(Plate XVIII.)

Mr. Anton Goering's present collection was principally formed in the vicinity of the Lake of Valencia, into which district he has made

* Since this fact first came to my knowledge, through the last edition of Professor Beale's excellent work on the Microscope, in which Weber is quoted as the observer. I have examined the intestines of the Tench, and found the striated muscular fibre on the greater part of its alimentary canal. The primitive muscular fascicles of the œsophagus, stomach, and intestines presented an average diameter of $\frac{1}{1333}$ of an inch, while those of the dorsal and ventral muscles measured as much as $\frac{1}{333}$. Thus the striated fibres of the hollow muscles are only about one-fourth the thickness of those of the ordinary voluntary muscles; and this agrees with my old measurements in fishes and other vertebrates, tabulated in the 'Proc. Zool. Soc.' (1842, p. 68).

† See Part I., P. Z. S. 1868, p. 165; Part II., P. Z. S. 1868, p. 626.